



OIPE

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/046,961

DATE: 02/05/2002

TIME: 16:56:32

Input Set : A:\CIT1510-3.ST25.txt

Output Set: N:\CRF3\02052002\J046961.raw

**ENTERED**

2 <110> APPLICANT: CALIFORNIA INSTITUTE OF TECHNOLOGY  
 3 LYAPINA, Svetlana  
 4 VERMA, Rati  
 5 DESHAIES, Raymond  
 7 <120> TITLE OF INVENTION: REGULATION OF TARGET PROTEIN ACTIVITY THROUGH MODIFIER  
 PROTEINS  
 9 <130> FILE REFERENCE: CIT1510-3  
 C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/046,961  
 C--> 11 <141> CURRENT FILING DATE: 2002-01-14  
 11 <150> PRIOR APPLICATION NUMBER: US 60/261,314  
 12 <151> PRIOR FILING DATE: 2001-01-12  
 14 <150> PRIOR APPLICATION NUMBER: US 60/322,322  
 15 <151> PRIOR FILING DATE: 2001-09-14  
 17 <150> PRIOR APPLICATION NUMBER: US 60/322,030  
 18 <151> PRIOR FILING DATE: 2001-09-14  
 20 <160> NUMBER OF SEQ ID NOS: 22  
 22 <170> SOFTWARE: PatentIn version 3.1  
 24 <210> SEQ ID NO: 1  
 25 <211> LENGTH: 14  
 26 <212> TYPE: PRT  
 27 <213> ORGANISM: Artificial sequence  
 29 <220> FEATURE:  
 30 <223> OTHER INFORMATION: JAM domain  
 32 <220> FEATURE:  
 33 <221> NAME/KEY: MISC\_FEATURE  
 34 <222> LOCATION: (1)..(14)  
 35 <223> OTHER INFORMATION: Xaa is any amino acid  
 37 <400> SEQUENCE: 1  
 39 His Xaa His Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Asp  
 40 1 5 10  
 43 <210> SEQ ID NO: 2  
 44 <211> LENGTH: 17  
 45 <212> TYPE: PRT  
 46 <213> ORGANISM: Artificial sequence  
 48 <220> FEATURE:  
 49 <223> OTHER INFORMATION: JAM domain  
 51 <220> FEATURE:  
 52 <221> NAME/KEY: MISC\_FEATURE  
 53 <222> LOCATION: (3)..(3)  
 54 <223> OTHER INFORMATION: Xaa is Tyr or Ile  
 56 <220> FEATURE:  
 57 <221> NAME/KEY: MISC\_FEATURE  
 58 <222> LOCATION: (5)..(5)  
 59 <223> OTHER INFORMATION: Xaa is Ser or Thr

## RAW SEQUENCE LISTING

DATE: 02/05/2002

PATENT APPLICATION: US/10/046,961

TIME: 16:56:32

Input Set : A:\CIT1510-3.ST25.txt

Output Set: N:\CRF3\02052002\J046961.raw

61 &lt;220&gt; FEATURE:

62 &lt;221&gt; NAME/KEY: MISC\_FEATURE

63 &lt;222&gt; LOCATION: (8)..(16)

64 &lt;223&gt; OTHER INFORMATION: Xaa is any amino acid

66 &lt;400&gt; SEQUENCE: 2

WV&gt; 68 Gly Trp Xaa His Xaa His Pro Xaa Xaa Xaa Xaa Xaa Xaa Ser Xaa Xaa

69 1 5 10 15

72 Asp

76 &lt;210&gt; SEQ ID NO: 3

77 &lt;211&gt; LENGTH: 246

78 &lt;212&gt; TYPE: PRT

79 &lt;213&gt; ORGANISM: Homo sapiens

81 &lt;400&gt; SEQUENCE: 3

83 Thr Met Ile Ile Met Asp Ser Phe Ala Leu Pro Val Glu Gly Thr Glu

84 1 5 10 15

87 Thr Arg Val Asn Ala Gln Ala Ala Tyr Glu Tyr Met Ala Ala Tyr

88 20 25 30

91 Ile Glu Asn Ala Lys Gln Val Gly Arg Leu Glu Asn Ala Ile Gly Trp

92 35 40 45

95 Tyr His Ser His Pro Gly Tyr Gly Cys Trp Leu Ser Gly Ile Asp Val

96 50 55 60

99 Ser Thr Gln Met Leu Asn Gln Gln Phe Gln Glu Pro Phe Val Ala Val

100 65 70 75 80

103 Val Ile Asp Pro Thr Arg Thr Ile Ser Ala Gly Lys Val Asn Leu Gly

104 85 90 95

107 Ala Phe Arg Thr Tyr Pro Lys Gly Tyr Lys Pro Pro Asp Glu Gly Pro

108 100 105 110

111 Ser Glu Tyr Gln Thr Ile Pro Leu Asn Lys Ile Glu Asp Phe Gly Val

112 115 120 125

115 His Cys Lys Gln Tyr Tyr Ala Leu Glu Val Ser Tyr Phe Lys Ser Ser

116 130 135 140

119 Leu Asp Arg Lys Leu Leu Glu Leu Leu Trp Asn Lys Tyr Trp Val Asn

120 145 150 155 160

123 Thr Leu Ser Ser Ser Ser Leu Leu Thr Asn Ala Asp Tyr Thr Thr Gly

124 165 170 175

127 Gln Val Phe Asp Leu Ser Glu Lys Leu Glu Gln Ser Glu Ala Gln Leu

128 180 185 190

131 Gly Arg Gly Ser Phe Met Leu Gly Leu Glu Thr His Asp Arg Lys Ser

132 195 200 205

135 Glu Asp Lys Leu Ala Lys Ala Thr Arg Asp Ser Cys Lys Thr Thr Ile

136 210 215 220

139 Glu Ala Ile His Gly Leu Met Ser Gln Val Ile Lys Asp Lys Leu Phe

140 225 230 235 240

143 Asn Gln Ile Asn Ile Ser

144 245

147 &lt;210&gt; SEQ ID NO: 4

148 &lt;211&gt; LENGTH: 245

149 &lt;212&gt; TYPE: PRT

150 &lt;213&gt; ORGANISM: Homo sapiens

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/046,961

DATE: 02/05/2002

TIME: 16 56:32

Input Set : A:\CIT1510-3.ST25.txt

Output Set: N:\CRF3\02052002\J046961.raw

152 &lt;400&gt; SEQUENCE: 4

```

154 Thr Val Arg Val Ile Asp Val Phe Ala Met Pro Gln Ser Gly Thr Gly
155 1 5 10 15
158 Val Ser Val Glu Ala Val Asp Pro Val Phe Gln Ala Lys Met Leu Asp
159 20 25 30
162 Met Leu Lys Gln Thr Gly Arg Pro Glu Met Val Val Gly Trp Tyr His
163 35 40 45
166 Ser His Pro Gly Phe Gly Cys Trp Leu Ser Gly Val Asp Ile Asn Thr
167 50 55 60
170 Gln Gln Ser Phe Glu Ala Leu Ser Glu Arg Ala Val Ala Val Val Val
171 65 70 75 80
174 Asp Pro Ile Gln Ser Val Lys Gly Lys Val Val Ile Asp Ala Phe Arg
175 85 90 95
178 Leu Ile Asn Ala Asn Met Met Val Leu Gly His Glu Pro Arg Gln Thr
179 100 105 110
182 Thr Ser Asn Leu Gly His Leu Asn Lys Pro Ser Ile Gln Ala Leu Ile
183 115 120 125
186 His Gly Leu Asn Arg His Tyr Tyr Ser Ile Thr Ile Asn Tyr Arg Lys
187 130 135 140
190 Asn Glu Leu Glu Gln Lys Met Leu Leu Asn Leu His Lys Lys Ser Trp
191 145 150 155 160
194 Met Glu Gly Leu Thr Leu Gln Asp Tyr Ser Glu His Cys Lys His Asn
195 165 170 175
198 Glu Ser Val Val Lys Glu Met Leu Glu Leu Ala Lys Asn Tyr Asn Lys
199 180 185 190
202 Ala Val Glu Glu Glu Asp Lys Met Thr Pro Glu Gln Leu Ala Ile Lys
203 195 200 205
206 Asn Val Gly Lys Gln Asp Pro Lys Arg His Leu Glu Glu His Val Asp
207 210 215 220
210 Val Leu Met Thr Ser Asn Ile Val Gln Cys Leu Ala Ala Met Leu Asp
211 225 230 235 240
214 Thr Val Val Phe Lys
215 245

```

218 &lt;210&gt; SEQ ID NO: 5

219 &lt;211&gt; LENGTH: 421

220 &lt;212&gt; TYPE: PRT

221 &lt;213&gt; ORGANISM: Homo sapiens

223 &lt;400&gt; SEQUENCE: 5

```

225 Met Pro Asp His Thr Asp Val Ser Leu Ser Pro Glu Glu Arg Val Arg
226 1 5 10 15
229 Ala Leu Ser Lys Leu Gly Cys Asn Ile Thr Ile Ser Glu Asp Ile Thr
230 20 25 30
233 Pro Arg Arg Tyr Phe Arg Ser Gly Val Glu Met Glu Arg Met Ala Ser
234 35 40 45
237 Val Tyr Leu Glu Glu Gly Asn Leu Glu Asn Ala Phe Val Leu Tyr Asn
238 50 55 60
241 Lys Phe Ile Thr Leu Phe Val Glu Lys Leu Pro Asn His Arg Asp Tyr
242 65 70 75 80
245 Gln Gln Cys Ala Val Pro Glu Lys Gln Asp Ile Met Lys Lys Leu Lys

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/046,961

DATE: 02/05/2002

TIME: 16:56:32

Input Set : A:\CIT1510-3.ST25.txt

Output Set: N:\CRF3\02052002\J046961.raw

```

246          85          90          95
249 Glu Ile Ala Phe Pro Arg Thr Asp Glu Leu Lys Asn Asp Leu Leu Lys
250          100          105          110
253 Lys Tyr Asn Val Glu Tyr Gln Glu Tyr Leu Gln Ser Lys Asn Lys Tyr
254          115          120          125
257 Lys Ala Glu Ile Leu Lys Lys Leu Glu His Gln Arg Leu Ile Glu Ala
258          130          135          140
261 Glu Arg Lys Arg Ile Ala Gln Met Arg Gln Gln Gln Leu Glu Ser Glu
262 145          150          155          160
265 Gln Phe Leu Phe Phe Glu Asp Gln Leu Lys Lys Gln Glu Leu Ala Arg
266          165          170          175
269 Gly Gln Met Arg Ser Gln Gln Thr Ser Gly Leu Ser Glu Gln Ile Asp
270          180          185          190
273 Gly Ser Ala Leu Ser Cys Phe Ser Thr His Gln Asn Asn Ser Leu Leu
274          195          200          205
277 Asn Val Phe Ala Asp Gln Pro Asn Lys Ser Asp Ala Thr Asn Tyr Ala
278          210          215          220
281 Ser His Ser Pro Pro Val Asn Arg Ala Leu Thr Pro Ala Ala Thr Leu
282 225          230          235          240
285 Ser Ala Val Gln Asn Leu Val Val Glu Gly Leu Arg Cys Val Val Leu
286          245          250          255
289 Pro Glu Asp Leu Cys His Lys Phe Leu Gln Leu Ala Glu Ser Asn Thr
290          260          265          270
293 Val Arg Gly Ile Glu Thr Cys Gly Ile Leu Cys Gly Lys Leu Thr His
294          275          280          285
297 Asn Glu Phe Thr Ile Thr His Val Ile Val Pro Lys Gln Ser Ala Gly
298          290          295          300
301 Pro Asp Tyr Cys Asp Met Glu Asn Val Glu Glu Leu Phe Asn Val Gln
302 305          310          315          320
305 Asp Gln His Asp Leu Leu Thr Leu Gly Trp Ile His Thr His Pro Thr
306          325          330          335
309 Gln Thr Ala Phe Leu Ser Ser Val Asp Leu His Thr His Cys Ser Tyr
310          340          345          350
313 Gln Leu Met Leu Pro Glu Ala Ile Ala Ile Val Cys Ser Pro Lys His
314          355          360          365
317 Lys Asp Thr Gly Ile Phe Arg Leu Thr Asn Ala Gly Met Leu Glu Val
318          370          375          380
321 Ser Ala Cys Lys Lys Lys Gly Phe His Pro His Thr Lys Glu Pro Arg
322 385          390          395          400
325 Leu Phe Ser Ile Cys Lys His Val Leu Val Lys Asp Ile Lys Ile Ile
326          405          410          415
329 Val Leu Asp Leu Arg
330          420
333 <210> SEQ ID NO: 6
334 <211> LENGTH: 461
335 <212> TYPE: PRT
336 <213> ORGANISM: Homo sapiens
338 <400> SEQUENCE: 6
340 Met Asp Gln Pro Phe Thr Val Asn Ser Leu Lys Lys Leu Ala Ala Met

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/046,961

DATE: 02/05/2002

TIME: 16:56:32

Input Set : A:\CIT1510-3.ST25.txt

Output Set: N:\CRF3\02052002\J046961.raw

```

341 1          5          10          15
344 Pro Asp His Thr Asp Val Ser Leu Ser Pro Glu Glu Arg Val Arg Ala
345          20          25          30
348 Leu Ser Lys Leu Gly Cys Asn Ile Thr Ile Ser Glu Asp Ile Thr Pro
349          35          40          45
352 Arg Arg Tyr Phe Arg Ser Gly Val Glu Met Glu Arg Met Ala Ser Val
353          50          55          60
356 Tyr Leu Glu Glu Gly Asn Leu Glu Asn Ala Phe Val Leu Tyr Asn Lys
357 65          70          75          80
360 Phe Ile Thr Leu Phe Val Glu Lys Leu Pro Asn His Arg Asp Tyr Gln
361          85          90          95
364 Gln Cys Ala Val Pro Glu Lys Gln Asp Ile Met Lys Lys Leu Lys Glu
365          100          105          110
368 Ile Ala Phe Pro Arg Thr Asp Glu Leu Lys Asn Asp Leu Leu Lys Lys
369          115          120          125
372 Tyr Asn Val Glu Tyr Gln Glu Tyr Leu Gln Ser Lys Asn Lys Tyr Lys
373          130          135          140
376 Ala Glu Ile Leu Lys Lys Leu Glu His Gln Arg Leu Ile Glu Ala Glu
377 145          150          155          160
380 Arg Lys Arg Ile Ala Gln Met Arg Gln Gln Gln Leu Glu Ser Glu Gln
381          165          170          175
384 Phe Leu Phe Phe Glu Asp Gln Leu Lys Lys Gln Glu Leu Ala Arg Gly
385          180          185          190
388 Gln Met Arg Ser Gln Gln Thr Ser Gly Leu Ser Glu Gln Ile Asp Gly
389          195          200          205
392 Ser Ala Leu Ser Cys Phe Ser Thr His Gln Asn Asn Ser Leu Leu Asn
393          210          215          220
396 Val Phe Ala Asp Gln Pro Asn Lys Ser Asp Ala Thr Asn Tyr Ala Ser
397 225          230          235          240
400 His Ser Pro Pro Val Asn Arg Ala Leu Thr Pro Ala Ala Thr Leu Ser
401          245          250          255
404 Ala Val Gln Asn Leu Val Val Glu Gly Leu Arg Cys Val Val Leu Pro
405          260          265          270
408 Glu Asp Leu Cys His Lys Phe Leu Gln Leu Ala Glu Ser Asn Thr Val
409          275          280          285
412 Arg Gly Ile Glu Thr Cys Gly Ile Leu Cys Gly Lys Leu Thr His Asn
413          290          295          300
416 Glu Phe Thr Ile Thr His Val Ile Val Pro Lys Gln Ser Ala Gly Pro
417 305          310          315          320
420 Asp Tyr Cys Asp Met Glu Asn Val Glu Glu Leu Phe Asn Val Gln Asp
421          325          330          335
424 Gln His Asp Leu Leu Thr Leu Gly Trp Ile His Thr His Pro Thr Gln
425          340          345          350
428 Thr Ala Phe Leu Ser Ser Val Asp Leu His Thr His Cys Ser Tyr Gln
429          355          360          365
432 Leu Met Leu Pro Glu Ala Ile Ala Ile Val Cys Ser Pro Lys His Lys
433          370          375          380
436 Asp Thr Gly Ile Phe Arg Leu Thr Asn Ala Gly Met Leu Glu Val Ser
437 385          390          395          400

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/046,961

DATE: 02/05/2002

TIME: 16:56:33

Input Set : A:\CIT1510-3.ST25.txt

Output Set: N:\CRF3\02052002\J046961.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application No

L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:39 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1

L:68 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2